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ABSTRACT

This book is a methods book to help teachers guide children to develop ideas and relationships about mathematics. The methods and activities are designed to get children mentally involved in the construction of those ideas and relationships. Chapter 1 discusses what it means to teach mathematics and suggests some of the important variables shaping mathematics education. Chapter 2 describes the general philosophy behind the subtitle, "Teaching Developmentally." In chapter 3, meaningful learning of mathematics is shown to be a problem-solving process regardless of the particular content. Chapters 4 through 19 each address a different part of the elementary mathematics curriculum. Activities (stressed as the most important feature of these chapters), problems for discussion and exploration, and suggested reading references are provided for each of the chapters. Chapter 20 describes the role of calculators and computers in mathematics. Chapter 21 discusses planning lessons, classroom use of materials, cooperative learning groups, homework, and the role of the basal textbooks. Chapter 22 is concerned with assessment with an emphasis on diagnosis and how to listen to children. The last chapter explores the special considerations that should be given to children with special needs. The appendices contain summaries of the NCTM Standards for grades K-8, guides for mathematics learning activities, and masters and construction tips. (YP)

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